Amendments to the Claims: .

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method for implementing a raster image path architecture, comprising the steps of:

(1)   capturing a source image so as to provide device-independent grayscale image data;

(2)   generating associated segmentation information useful for optimal rendering of the image data as a binary image;

(3)   storing the device-independent grayscale image data and the associated segmentation information, wherein the storing includes compressing the grayscale image data and the associated segmentation information;

(4)   determining a target output device and using the segmentation information to convert the device-independent grayscale image data to a binary raster image optimized for the targeted output device; and

(5)   submitting the binary raster image to the targeted output device.

2.   (Original) The method of claim 1, further comprising the steps of computing the segmentation information at an intermediate platform and converting the device-independent grayscale raster image data to a targeted device-dependent binary raster image.

3.   (Original) The method of claim 1, further comprising the step of generating the device-independent grayscale image data in the form of device-independent N-plane grayscale raster image data.

4.   (Original) The method of claim 1, further comprising the step of determining the segmentation information inherent in the device-independent N-plane grayscale raster

-2-

image data for converting the device-independent N-plane grayscale raster image data into a targeted device-dependent binary raster image.

5.   (Original) The method of claim 1, further comprising the step of converting of the device-independent grayscale raster image data and associated segmentation information to targeted device-dependent binary raster image data with operation of an intermediate compute platform according to the determination of the targeted output device.

6.   (Original) The method of claim 1, wherein the targeted output device further comprises a printer.

7.   (Original) A method for implementing a raster image path architecture, comprising the steps of:

(1)   capturing a source image so as to provide device-independent grayscale image data;

(2)   generating associated segmentation information useful for optimal rendering of the device-independent grayscale image data as binary image data;

(3)   applying the associated segmentation information to create device-independent N-plane MRC image data;

(4)   determining a target print engine having a print controller and determining whether the print controller can effectively process the device-independent N-plane MRC image data;

(5)   in response to a determination that the print controller is capable of effectively processing the device-independent N-plane MRC image data, submitting the N-plane MRC image data to the print controller; and

(6)   in response to determination that the print controller is not capable of effectively processing the device-independent N-plane MRC image data, rendering grayscale overlay planes and flattening image layers, thus yielding device-dependent binary raster

image data and submitting the device-dependent binary raster image file to the print controller.

8. (Original) The method of claim 7, wherein the N-plane MRC image file further comprises a plurality of planes for supporting binary images and a plurality of planes for supporting a grayscale images.

9. (Original) The method of claim 7, further comprising the step of storing the device-independent N-plane MRC raster image file.

10. (New) The method of claim 1, wherein the compressing includes lossy compression of the grayscale image data.

11. (New) The method of claim 1, wherein the compressing includes lossless compression of the associated segmentation information.